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ABSTRACT

Using the Scale of Intrinsic versus Extrinsic Orientation in the Classroom (S. Harter, 1980) and the Self-Perception Profile for Children (S. Harter, 1985), this study of 222 urban early adolescents (median age=149 months) examined differences in motivation that might affect academic achievement and perceptions of competence. Socioeconomic status (SES) was found to be an important factor in academic performance, with poorer performance noted for lower income students. Like earlier research, cross-sectional analysis (controlling for SES) of composite intrinsic/extrinsic scores indicated a decline in the motivational component and an increase in the informational component from sixth to seventh grade. However, in contrast to previous research on predominantly white samples, this study finds these urban and minority students to be more intrinsically motivated. Academic motivation of students from single-parent families was found to be greater than that of peers living in two-parent families. Other within-group differences also contributed to academic outcomes. Actual academic achievement was higher for students who did not rely on teacher evaluation to know when they had succeeded or failed academically. Variability in perceived scholastic competence influenced motivational orientation more than did actual academic achievement. These findings suggest ways in which schools can help at-risk students succeed. (Contains 3 tables and 17 references.) (Author/SLD)

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Demographic and Educational Influences on Academic Motivation, Competence, and Achievement in Minority Urban Students

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Poster presented at the biennial meeting of the Society for Research in Child Development, April 1999, Albuquerque, NM. Correspondence may be addressed to Rebecca A. Marcon, Department of Psychology, University of North Florida, Jacksonville, FL 32224-2673. (904) 620-2807 electronic mail: rmarcon@unf.edu

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Abstract

Although poverty is a primary threat to children's school engagement and performance, a great deal of variability in academic achievement exists among low-SES minority children, and within-group differences that place these children at-increased-risk for poor educational outcomes need to be examined. Using Harter's (1980) Scale of Intrinsic versus Extrinsic Orientation in the Classroom and the Self-Perception Profile for Children (Harter, 1985), this study of 222 urban early adolescents (median age = 149 mos) examined differences in motivation that might effect academic achievement and perceptions of competence. SES was found to be an important factor in academic performance, with poorer performance noted for lower income students. Like earlier research, cross-sectional analysis (controlling for SES) of composite intrinsic/extrinsic scores indicated a decline in the motivational component and an increase in the informational component from sixth to seventh grade. However, compared to previous research on predominantly white samples, these urban and predominantly minority students were more intrinsically motivated. Academic motivation of students from single-parent families was found to be greater than that of peers living in two-parent families. Other within-group differences also contributed to academic outcomes. Actual academic achievement was higher for students who did not rely on teacher evaluation to know when they had academically succeeded or failed. And, variability in perceived scholastic competence influenced motivational orientation more so than did actual academic achievement. These findings suggest ways in which schools can help at-risk students succeed.

Demographic and Educational Influences on Academic Motivation,

Competence, and Achievement in Minority Urban Students

More socioeconomically advantaged minority children typically perform better academically than peers with less socioeconomic advantage, even after controlling for a variety of other factors (e.g., Caldas, 1993; Carter, 1984; Schultz, 1993). Although poverty is a primary threat to children's school engagement and performance (e.g., Barnett, Vondra, & Shonk, 1996), a great deal of variability in academic achievement exists among low-SES minority children, and within-group differences that place these children at-increased-risk for poor educational outcomes need to be examined (Ford & Harris, 1996). While the positive relationship between intrinsic motivation, perception of competence, and academic achievement has been well established (e.g., Gottfried, 1990; Harter & Connell, 1984; Uguroglu & Walberg, 1986), studies on minority students have been limited and yield mixed results (see Marchant, 1991). Motivational factors do not appear to have much influence on early scholastic competence of low-SES preschoolers (Lange, Farran, & Boyles, 1998; Stipek & Ryan, 1997). Among older, low-SES minority students, however, higher achievement motivation is often associated with better academic performance (e.g., Cooper & Tom, 1984; Ford & Harris, 1996; Sewell & Price, 1991). Longitudinal analysis of a large national data set indicated academic motivation may exert a stronger effect on academic achievement of at-risk students (non-Asian minority, low-SES) than it does on high school students in general (Anderson & Keith, 1997). In fact, less socioeconomically advantaged urban minority children who were higher in achievement motivation performed closer to their ability level than did minority children of similar low-SES background who were lower in achievement motivation (Schultz, 1993).

The present study sought to add to the limited research base on urban African American

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early adolescents by examining within-group differences in motivation that might affect academic achievement and perceptions of competence. In addition to SES and demographic factors, educational history and accuracy of student perceptions were examined.

Method

As part of a longitudinal study of early intervention, 222 students (median age = 149 mos) enrolled in 74 public schools in Washington, D.C. completed a Scale of Intrinsic versus Extrinsic Orientation in the Classroom (Harter, 1980) and the Self-Perception Profile for Children (Harter, 1985). Achievement data (grades and sixth grade standardized achievement test scores) were provided by the District of Columbia Public Schools. The sample was 97% African American and 56% female. Most (74%) qualified for subsidized lunch based upon low family income, and 71% lived in single-parent families. Educationally, 81% had attended free preschool (Pre-K or Head Start) in this school system prior to entering kindergarten, 19% entered school for the first time as kindergartners (K-only), 32% had failed a grade, 12% received special education services, and 13% were identified as gifted.

Results

Comparison with Harter's Findings

Mean scores for each of the subscales on the 4-point motivation scale (lower score more extrinsic, higher score more intrinsic) ranged from 2.46 (Independent Judgment) to 3.18 (Curiosity/Interest). Compared to Harter's predominantly white, middle-class sample, sixth and seventh graders in this study of predominantly Black urban youth reported significantly higher preference for Challenge (6th grade: $t(180) = -2.23$, $p < .05$; 7th grade: $t(161) = -2.38$, $p < .05$) and Curiosity (6th grade: $t(180) = -8.95$, $p < .001$; 7th grade: $t(161) = -8.72$, $p < .001$). Both were similar in Independent Mastery, Independent Judgment, and Internal Criteria. Like Harter's findings, perceived Scholastic Competence was strongly related to

motivational components, while correlations with informational components were lower in magnitude (see Table 1). Analysis of cross-sectional composite scores for sixth and seventh grade

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Insert Table 1 about here

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students who had not been retained (controlling for SES) corresponded with Harter's findings; the motivational component declined from 6th to 7th grade (3.12 to 2.93, F (1, 97) = 2.57, p = .11), and the informational component increased (2.43 to 2.72, F (1, 96) = 8.59, $p < .01$).

Demographic and Educational History Influences on Motivation

More socioeconomically advantaged students were higher in intrinsic motivation, with significant differences found in Independent Mastery and Independent Judgment (see Table 2).

Insert Table 2 about here

Controlling for SES, no motivational differences were found between (a) Pre-K/Head Start and K-only students, (b) students who had been retained and those who had not failed a grade, and (c) special and regular education students. Females were more intrinsic than males in Independent Judgment and Curiosity/Interest. Students living in single parent families had higher intrinsic motivation than those from two-parent families. Gifted students were more intrinsic than non-gifted in Internal Criteria.

Academic Achievement

Following Schultz's (1993) use of median splits to define motivational groups, the effect of motivation and SES on academic achievement was examined using a covariate (gifted status) to control for ability. As seen in Table 3, the composite motivational component had no significant

influence on grades, although those above the median had a higher GPA (2.74 vs. 2.61) and higher grades in all subject areas except handwriting, social studies, and art. The composite informational component did effect academic achievement, with those above the median displaying a significantly higher GPA (2.86 vs. 2.46) and higher grades in all subjects. These differences were significant for reading, language, social studies, science, and health/PE, with a trend towards significance noted for math. Stronger academic performance was mostly due to higher Internal Criteria scores.

Insert Table 3 about here

Analysis of sixth grade standardized achievement test scores (Comprehensive Test of Basic Skills - CTBS) yielded similar results. Although overall battery and scores in all subareas except reading and science were higher for those above the median on the composite motivational component, none of these differences were statistically significant. However, students above the median on the informational component had higher overall battery scores (60.20 vs. 53.63, F (1, 105) = 3.05, $p < .09$) and higher scores in all subareas.

More socioeconomically advantaged students had a significantly higher GPA and higher grades in all subjects except art and health/PE (see Table 3). These differences were significant for reading, language, spelling, science, music, and citizenship, with trends toward significance noted for math and handwriting. Lower SES students had significantly higher health/PE grades. Higher CTBS scores were found for more socioeconomically advantaged students in overall battery (60.42 vs. 53.41, F (1, 105) = 3.61, $p = .06$) and all subareas except spelling. These differences were significant ($p < .05$) for reading and science, with trends toward significance noted for language ($p < .07$) and reference skills ($p = .11$).

Perception of Scholastic Competence

Four accuracy groupings were formed using student ratings of scholastic competence (above/below median) and actual competence (above/below median) as assessed by grades or standardized achievement tests. Intrinsic motivation was highest for those who believed they were scholastically competent whether or not grades (F (3, 148) = 12.64, $p < .001$) or test scores (F (3, 151) = 13.68, $p < .001$) supported this perception. The informational component was higher for students with high grades, whether or not they believed they were scholastically competent (F (3, 148) = 8.58, $p < .001$). Students with both high test scores and high perceived competence had more intrinsic informational scores (F (3, 148) = 4.95, $p < .01$). A comparison of teacher and student perceptions of scholastic competence indicated highest intrinsic motivation for students who believed they were scholastically competent regardless of teacher perceptions (F (3, 187) = 15.59, $p < .001$). Informational scores were more intrinsic for students whose high self-ratings of scholastic competence agreed with teacher ratings (F (3, 186) = 3.80, $p < .05$).

Discussion

While age-related patterns of motivation were similar, this study's findings differed somewhat from previous research on predominantly white samples. Urban minority early adolescents were more intrinsically motivated. Furthermore, contrary to Ginsburg and Bronstein's (1993) findings on white, northern New England students, the academic motivation of Black urban students from single-parent families was greater than that of peers living in two-parent homes. This finding warrants further research. Consistent with other research, SES was an important factor in academic performance, even in a sample of students attending a predominantly Black urban school system. Other within-group differences also contributed to academic outcomes. Actual academic achievement was higher for students who did not rely on teacher

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evaluation to know when they had academically succeeded or failed. And, variability in perceived scholastic competence influenced motivational orientation more so than did actual academic achievement. These findings suggest ways in which schools can help at-risk students succeed.

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Table 1

Intercorrelations among Harter Subscales

	1	2	3	4	5	6
Motivational Component						
1. Preference Challenge	--	.59***	.55***	-.01	.16*	.45***
2. Curiosity/Interest		--	.36***	.05	.09	.38***
3. Independent Mastery			--	.12	.25***	.46***
Informational Component						
4. Independent Judgment				--	.21**	.07
5. Internal Criteria					--	.27***
Perceived Competence						
6. Scholastic Competence						--

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 2

Significant Demographic and Educational History Influences on Motivation

		SES		Sex		Families		Cognitive Ability	
		No Lunch Subsidy	Subsidized Lunch	Females	Males	Single Parent	Two Parents	Gifted	Non-Gifted
Motivational									
Preference Challenge	M	3.00	2.95	2.99	2.93	3.06	2.77	3.06	3.02
	SD	(.69)	(.66)	(.64)	(.70)	(.67)	(.66)	(.71)	(.65)
		$F(1, 220) = .31$		$F(1, 219) = .52$		$F(1, 185) = 8.15^{**}$		$F(1, 173) = .07$	
Curiosity/ Interest	M	3.28	3.15	3.25	3.10	3.25	3.07	3.26	3.20
	SD	(.64)	(.66)	(.62)	(.70)	(.61)	(.72)	(.65)	(.68)
		$F(1, 220) = 1.45$		$F(1, 219) = 3.02^{+}$		$F(1, 185) = 3.40^{+}$		$F(1, 173) = .12$	
Independent Mastery	M	3.00	2.79	2.84	2.83	2.91	2.70	2.91	2.88
	SD	(.69)	(.67)	(.65)	(.72)	(.74)	(.60)	(.62)	(.69)
		$F(1, 219) = 3.99^{*}$		$F(1, 218) = .01$		$F(1, 184) = 3.85^{*}$		$F(1, 172) = .04$	
Informational									
Independent Judgment	M	2.63	2.40	2.54	2.36	2.45	2.46	2.57	2.42
	SD	(.65)	(.54)	(.60)	(.53)	(.57)	(.59)	(.59)	(.58)
		$F(1, 220) = 6.55^{*}$		$F(1, 219) = 5.59^{*}$		$F(1, 185) = .03$		$F(1, 172) = 1.38$	
Internal Criteria	M	2.68	2.50	2.53	2.57	2.61	2.37	2.75	2.45
	SD	(.74)	(.73)	(.74)	(.72)	(.82)	(.66)	(.71)	(.73)
		$F(1, 217) = 2.34$		$F(1, 216) = .19$		$F(1, 184) = 4.37^{*}$		$F(1, 171) = 3.38^{+}$	

Note. For all variables except SES, means adjusted for SES covariate. Scores could range from 1 to 4, with a higher score reflecting greater intrinsic motivation. + $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 3

Influence of Motivation and SES on Academic Achievement: Grades

		Motivational Component		Informational Component		SES	
		Below Median	Above Median	Below Median	Above Median	No Lunch Subsidy	Subsidized Lunch
Overall GPA	M	2.61	2.74	2.46	2.86**	2.83	2.49*
	SD	(.71)	(.68)	(.70)	(.61)	(.65)	(.68)
Subject Areas							
Math	M	2.38	2.56	2.26	2.68+	2.68	2.25+
	SD	(1.24)	(.98)	(1.09)	(1.07)	(.91)	(1.09)
Reading	M	2.49	2.69	2.26	2.87*	2.87	2.26*
	SD	(1.09)	(1.09)	(.99)	(1.04)	(.90)	(1.05)
Language	M	2.49	2.69	2.37	2.80*	2.82	2.35*
	SD	(1.01)	(.95)	(1.04)	(.82)	(.84)	(.97)
Spelling	M	2.60	2.78	2.48	2.88	2.99	2.37*
	SD	(1.06)	(1.16)	(1.09)	(1.06)	(.88)	(1.12)
Handwriting	M	2.89	2.79	2.74	2.87	3.00	2.61+
	SD	(.83)	(.78)	(.79)	(.82)	(.83)	(.79)
Social Studies	M	2.54	2.41	2.19	2.67*	2.59	2.27
	SD	(1.08)	(1.05)	(1.01)	(1.03)	(1.05)	(1.06)
Science	M	2.52	2.82	2.37	2.95**	2.95	2.37**
	SD	(1.06)	(.98)	(1.00)	(.93)	(.83)	(.82)
Art	M	2.96	2.80	2.81	2.92	2.86	2.87
	SD	(.84)	(.82)	(.80)	(.85)	(.83)	(.82)
Music	M	2.99	3.24	3.06	3.20	3.44	2.82**
	SD	(.81)	(.88)	(.87)	(.84)	(.75)	(.84)
Health/PE	M	2.77	2.89	2.58	3.08*	2.55	3.11**
	SD	(.88)	(.87)	(.90)	(.80)	(1.11)	(.79)
Citizenship	M	2.66	2.67	2.46	2.79	2.94	2.31*
	SD	(1.15)	(1.17)	(1.24)	(1.05)	(.81)	(1.16)

Note. Means adjusted for ability covariate (gifted status). Overall GPA and subject area scores could range from F = 0 to A = 4, with higher scores indicative of greater academic achievement. + $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

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